

2. A PTFE tube as claimed in claim 1 wherein the improved resistance to permeation by comparison with the non-convoluted tube is greater than 10%.

3. (Amended) A PTFE tube as claimed in **[any preceding]** claim 1 wherein the improved resistance to permeation by comparison with the non-convoluted tube is greater than 20%.

a 4. (Amended) A PTFE tube as claimed in **[any preceding]** claim 1 wherein the improved resistance to permeation by comparison with the non-convoluted tube is greater than 30%.

5. (Amended) A PTFE tube as claimed in **[any preceding]** claim 1 wherein the improved resistance to permeation by comparison with the non-convoluted tube is greater than 60%.

6. (Amended) A PTFE tube as claimed in **[any preceding]** claim 1 having a smooth internal bore.

7. (Amended) A PTFE tube as claimed in **[any preceding]** claim 1, which tube is obtained from a non-convoluted tube having an original wall thickness  $W_0$  and an internal diameter ID by a process comprising:

1. subjecting the PTFE tube to a deformation force at a temperature at or above the gel transition temperature of PTFE to produce constrained convolutions having a thinned wall  $W_1$ ; and

2. cooling the PTFE tube to below the gel transition temperature whilst continuing to constrain the deformations having the thinned wall  $W_1$  until the convolutions having the thinned wall  $W_1$  have become stable.

8. (Amended) A PTFE tube as claimed in **[any preceding]** claim 1, which on heating to above its gel transition temperature without a restraining force in place returns to within 20% of the tubes original wall thickness  $W_0$  but will not do so below the gel transition temperature.

9. A method of producing a PTFE tube comprising external roots and peaks from a non-convoluted tube having an original wall thickness  $W_0$  comprising:

1. subjecting the PTFE tube to a deformation force at a temperature at or above the gel transition temperature of PTFE to produce constrained convolutions having a thinned wall  $W_1$ ; and

716

A

6 2. cooling the PTFE tube to below the gel transition temperature whilst  
7 continuing to constrain the deformations having the thinned wall  $W_1$  until the convolutions having  
8 the thinned wall  $W_1$  have become stable.

1 10. A method of producing a PTFE tube as claimed in claim 9, wherein the tube is  
2 placed on a mandrel and a helical tool comprising a leading end and a following end is rotated  
3 relative to the mandrel at a speed such that the leading end applies a deformation force at above the  
4 gel transition temperature and the following end applies a restraining force until the temperature has  
5 dropped below the gel transition temperature and the convolutions have become stable.

1 11. A method as claimed in claim 10 wherein the mandrel is a plane cylindrical  
2 mandrel.

1 12. (Amended) A method as claimed in [claims] claim 10 [or 11] wherein the  
2 following end of the helical tool is maintained at a temperature below the gel transition temperature.

1 13. (Amended) A method as claimed in [any of claims 9 to 12] claim 9 wherein  
2  $W_1$  is less than 25% of  $W_0$ .

1 14. A method as claimed in claim 13 wherein  $W_1$  is about 20% of  $W_0$ .

1 15. (Amended) A hose assembly comprising a PTFE tube as claimed in [any of  
2 claims 1 to 8] claim 1, a braid and one or more end fittings.

1 16. (Amended) Use of a PTFE tube as claimed in [any of claims 1 to 8] claim 1  
2 in a hose assembly for the purpose of improving the resistance to permeation of said hose assembly.

1 17. (Amended) Use of a PTFE tube as claimed in [any of claims 1 to 8] claim 1  
2 for the manufacture of a hose assembly intended to have improved resistance to permeation.

1 18. (Amended) A method comprising passing a fluid through a PTFE tube or  
2 hose assembly under a pressure greater than atmospheric pressure characterized in that the fluid is  
3 passed through a PTFE tube as claimed in [any of claims 1 to 8] claim 1 or the hose assembly as  
4 claimed in claim 15.